Thesis
and
Report
Tremaine, J.

P R I N C I P L E S
and
S T A N D A R D S
the
SOCIAL
WELL-
BEING
ACCOUNT
***

SOCIAL

CONFLICT

ANALYSIS

Concepts
and
Procedures
for comparing

Land Management
• ALTERNATIVES

by
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Graduate Student
and
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**

STATE
and
PRIVATE
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Area Planning
and Development

U.S.D.A.
Forest Service
P.O. Box 25127
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October 1976
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ROCKY MOUNTAIN STA...

- CONFLICT ANALYSIS -
CONCEPTS AND PROCEDURES FOR COMPARING LAND MANAGEMENT ALTERNATIVES BY THIER SOCIAL CONFLICT CONSEQUENCES

Cooperative Aid Agreement #16-5641CA

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Some Thoughts for Decision Makers
from the River Basin Program Staff
about a way to consider
Social Well-Being in Planning Decisions

- comments on perspective and vulnerability -

1. What is being presented here is a set of procedures that generate, display, and compare data regarding social well-being effects associated with the pursuit of different land management alternatives. The overall idea is to allow decision-makers to see and compare how different alternatives in a given planning area will differentially help and hurt categories of people.

   The purpose of this effort is to make a contribution to the definition and understanding of the social well-being account for land use planning. Various regulations and legislation stipulate that social well-being concerns are important and include at least: real income distribution; life, health, and safety; education, culture, and recreation; emergency preparedness; and "other" effects.

   Following discussions with Forest Service land managers, two complimentary levels of definition and understanding were derived. The more specific level was a way of identifying the beneficiaries and benefactors of proposed alternatives. The broader level focused on ways to sort out alternatives that would be less desirable from a social well-being standpoint.

   The broad or umbrella level was structured around thirteen yes-no questions that we thought met our River Basin Program responsibilities and yet were also important within the decision-maker's socio-political real world. These questions relate to land use by people and deal with future options, effects of scale, affected constituencies, burdens of uncertainty, and conflict patterns.

   This Book Concerns ** Conflict Patterns

   No attempt was made to explore the possible ways of analysis for all these questions. Because we felt it best to concentrate development efforts on a few but discriminating tools, only the inter-related questions of land use publics, future

options, and conflict patterns were chosen for in-depth work. Consequently, methodologies for addressing the effects of scale, affected constituencies, or burdens of uncertainty have not been fully explored.

A specific or descriptive level of definition and understanding for social well-being also exists. We saw this level as information for display in the social well-being account and as input data to the umbrella level questions on future options and conflict patterns. We concentrated development efforts on a few tools usable for analyzing the distribution of real income, (which includes employment opportunities, social and physical access to opportunities, futures foregone or displacement of choices, and property values). Methodologies for addressing the effects on life, health, and safety; education, culture, and recreation; emergency preparedness; and "other" effects have not been fully explored.

2. We viewed the process of building descriptions, making predictions, and getting answers to the questions on future options and conflict patterns as "analysis" of who gets helped and who gets hurt.

In order to sort out which patterns of land management alternatives promote or retard social well-being, a set of sociological value judgements are used so as to make systematic comparisons possible, useful, and suggestive. We realize that analysis cannot take place without planners using some kind of supporting value judgements; however, there is no expectation that these judgements can substitute for the decision-maker's judgement. It is understood that the decision-maker will consider the sociological value judgements as part of larger social, economic, legal, political, and technical considerations.

Sociological Value Judgements see Relationship of this paper to MULTI-OBJECTIVE PLANNING Section D

Every planning team has an obligation to display what they feel are appropriate value judgements. This gives you a place to start in coming up with revised value judgements. These procedures are intended to allow flexibility in recycling the data against revised value judgements. Even if you reject all of our value judgements, at least the data retains its degree of purity and can be displayed.

If these sociological value judgements are accepted, the procedures presented in this report will produce a ranking of management alternatives in terms of their estimated social well-being effects as analyzed along three dimensions: Future Foregone, Equality of Access to employment and recreation opportunities, and Conflict Patterns.

3. Conflict is inevitable. No matter which management alternatives are selected, people will be helped and hurt disproportionately. Conflict simply cannot be eliminated. The operative questions we are addressing are: How can conflict be organized so that issues among conflicting parties become more negotiable? How can social conflict be organized so that it contributes to social cohesion and constructive social change? The set of analytical procedures pertaining to conflict polarization demonstrates a method of getting answers to questions such as these.

4. In the National Environmental Policy Act of 1969, Congress told us to ". . . stimulate the health and welfare of man; . . ." and to ". . . fulfill the social, economic, and other requirements of the present and future generations of Americans." In other legislation, Congress stated goals for social well-being, but the statutes are unclear as to what is meant by "social well-being" or "quality of life" or "welfare". Further, there seems to be little recognition in most social impact analysis work that the identification of who <u>does</u> get helped or hurt needs to be kept separate from the social engineering question of who <u>should</u> get helped or hurt.

Because of this lack of definition, the nebulous nature of the concepts in general, and the relatively unproven status of social impact analysis procedures discussed in the following pages, your use of such procedures in decision making will be subject to challenge by those who disagree with your position.

However, if you choose not to use some approach to social impact analysis, you will still be on the hook. The law requires that you address the social well-being question in some way.

5. Since your background is not in sociology, you are at the mercy of any new procedures being touted as the newest and best. And it is difficult to find an unbiased opinion about their usefulness because people that are knowledgeable have a vested interest in selling you something of theirs. We are no exception.

   We recognize that for you to dig into the methods and background surrounding the development of the social impact analysis procedures and theoretical base would be impossible because of the time required. We also recognize that for you to have an unbounded faith in the procedures as conceptualized and presented here is unrealistic. Similarly, there is no way to prove statistically or logically that this way is better than another or that one starting premise is naturally superior to another. A short perusal of sociological literature should convince you of that.

   We have done our level best to adapt the sociologist's theory and value judgements to the real world that we believe relates to Forest Service responsibilities and missions. This concern with responsibilities was the starting point and has remained as the guide post through the development process.

   We also operate with knowledge of Kenneth Arrow's "Impossibility Theorem", that says serving majority preferences has no necessary connection to improving social well-being. Starting from Arrow's premise, the direction of our work is counter and conceptually opposite to efforts on survey research and social indicator tabulations that imply that the best thing to do is what the majority prefer.

6. The procedures are inexpensive. Because of this, it may be thought of as not worth much. Few people, in-service, in other public agencies, or in the general public will take the time to understand whether or not the procedures are effective in meeting your needs. Some people believe that a $5000 study is 10 times better than a $500 one and you may be judged on this fact alone.

   The procedures tend to be inexpensive because the Delphi Technique is used to get at the answers.

Panels of knowledgeable people are shown the expected outputs and distribution of effects for the alternatives, then asked to rank the social well-being effects according to set procedures.

7. In summary, your gut level reaction is probably as good as anything else in judging as to the relative pros and cons of these procedures. The planning team has tried to make it easy for you to identify where the team is coming from and what the sociological value judgements are that the team thinks are valid. The team believes that the analytic tools described herein can help you select "better" alternatives. The tools are designed to be used singly or in an integrated process depending on the complexity and hazard of the question being raised.

   To the extent that you agree, the supporting book can be used as a "how-to-do-it" book by your staff to generate and display the data and analyses of your alternatives. To the extent that you differ in your views of good or bad - then at least the data remains pure enough to meet part of your needs.

Several 'how-to-do-it' procedure manuals
***
This one is Conflict Patterns

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June 1977

Relationship of this Paper to

M U L T I - O B J E C T I V E P L A N N I N G

A. Outline of the Steps Used In River Basin Programs To Meet the Water Resource Council's Principles and Standard for Multi-Objective Water and Related Land Resources Planning

1. Identifying Problems, Needs, Desires, Preferences. Specify components of two objectives - National Economic Development and National Environmental Quality. Blend local and state input with national direction to insure meeting planning responsibilities and purpose.

2. Project Future Conditions. Describe demands for outputs under alternative futures in terms of quantity, quality, and time relationships.

3. Analyze Resource and Management Capabilities. Determine amounts of outputs that will be available under existing management contracts and plans. Identify component needs as the difference between anticipated demands and the amounts of outputs available under existing management contracts and plans.

4. Identify Actions and Opportunities to Satisfy Needs. Identify a spectrum of ways and means that can help attain the desired beneficial effects and meet the anticipated demands. Identify the nature of the risks - economic, environmental, legal, or social - and the weakness associated with the ways and means that would tend to limit attainment.

5. Formulate Alternative Plans to Satisfy Needs. Structure plans to achieve varying levels of contributions to the specified components of the multi-objectives. Show component outputs that are complementary to both NED and EQ objectives.

6. Test each plan for public acceptability, effectiveness in meeting needs, economic efficiency, and complete accounting for all necessary investments and other actions.

7. Display and compare alternative plans. Display accounts for national economic development, regional development, environmental quality, and social well-being.

8. Reconsider or add alternatives based on analysis of acceptability, effectiveness, new information, or public policy changes.

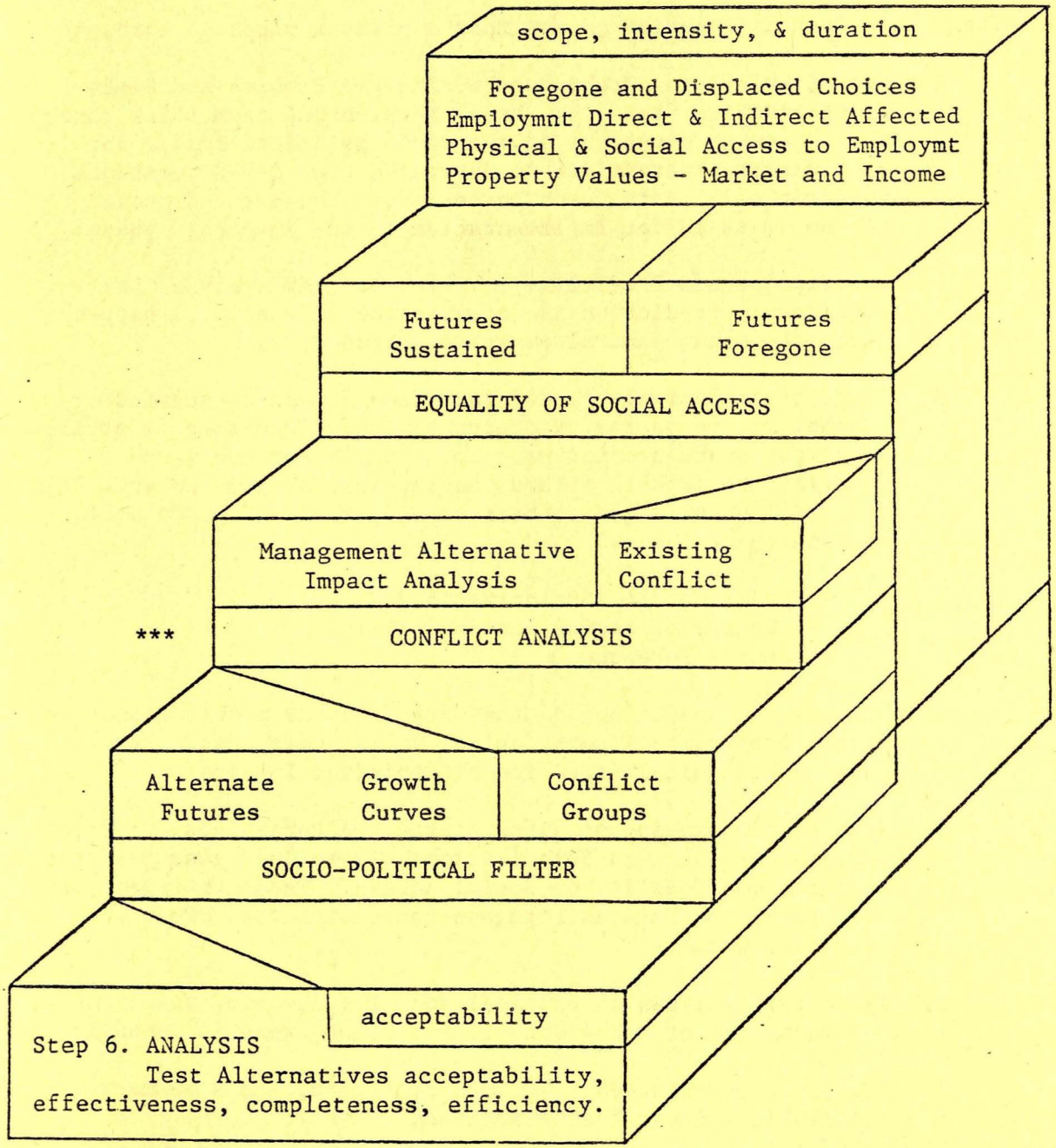
9. Selection (if any) of the recommended plan will be made by the interested and relevant public or private groups consistent with expected impacts of the plan.

Figure ii. Relationship of This Paper to

M U L T I - O B J E C T I V E P L A N N I N G

B. Hierarchial Staircase of the Analytic Process
Step 6 (partial) Public Acceptability Conceptual Framework

This paper treats *CONFLICT ANALYSIS*



Relationship of This Paper to

MULTI-OBJECTIVE PLANNING

C. How the Description and Analysis Pieces Fit Together

These tools are conceived to be as simple and as flexible as possible. We recognize that our particular analysis of what the important social well-being questions are would not hold for other planners working in other areas. Therefore, we designed tools that could be used independently of each other, yet could be integrated into a more powerful analysis if the need arose.

There are seven distinctive phases that a planner might go through:

1. Social Well-Being Problems - During the Problem and Needs Identification Step (#1), have the planning team think through the 13 yes-no questions of the socio-political filter for preliminary alternatives to determine what S-W-B questions are critical. Data needs in terms of quantity and quality can be assessed for implementation in the inventory phase.

2. Descriptive and Predictive - This is an inventory of pertinent data. Prediction is an extension of what will happen under the management alternative proposed.

3. Next, the relatively 'hard' data from #2 can be submitted to a panel of judges for reinterpretation. This step is still descriptive and predictive. The panel's purpose is to identify the impacts without saying what should happen. This data will be arranged to bear on any or all of these social well-being variables.

    - Social Conflict Polarization
    - Equality of Social Access
    - Futures Foregone

4. Next is the comparison of the data from the panel against some preset professional sociological value judgements. We call this "Sociological Valuation of Projected Impacts."

5. Next is the ranking of alternatives. Alternatives are first screened on Conflict Polarization. Those that pass are next screened for Equality of Social Access. Those that pass are then ranked on Futures Foregone score with the lowest one being the winner.

6. Re-do the analysis if critical social well-being questions are uncovered or where the risk of being wrong is intensified.

7. Display the variables, the interpretation, and a summary of the rankings for the alternatives.

D. OVERVIEW OF SOCIAL WELL-BEING ANALYTIC PROCESS

Variables Employed to Describe Planning Area Now & Future	Data Sources for Variables	Sociological Valuation of Projected Impacts	Ranking of Social Well-Being Valuations	The decision to re-check & refine the analysis
1. Employment Directly Affected	Industry Occupation Model			Re-do analysis if critical social well-being questions are uncovered or where the risk of being wrong intensifies for: a) Futures Foregone b) Equality of Access c) Conflict Polarization d) cumulative effects of scale e) identification of constituencies f) unknown thresholds g) burdens of uncertainty h) reversibility
2. Employment Indirectly Affected	Industry Occupation Model			
3. Social Conflict Polarization	Delphi panel	Value Reduced Conflict Polarization	First Screening - Alternatives failing this test are most deterimental to S-W-B.	
4. Social Access to Opportunities	Industry Occupation Model and Delphi Panel	Value Increased Equality of Access	Second Screening - Alternatives surviving the Conflict Test but failing this test are moderately in violation of S-W-B.	
5. Future Foregone	Delphi Panel and Resource Allocation Model (s)	Value Reduced Futures Foregone	Third Screening -- that surviving alternative which is estimated to forego the fewest choice opportunities is the winner.	
6. Physical Access to Opportunities	Maps and Population			
7. Property Values	Delphi Panel			

Abstract

Previous work by David Freeman describes procedures that generate, display, and compare data regarding social well-being effects associated with the pursuit of different land management alternatives. Six categories of effects can be detailed: futures foregone on the land base for groups of people and for types of activities, employment directly and indirectly affected, physical or locational access to the jobs, social or cultural access to the jobs, and the impact on property values.

generate, display & compare social well-being effects

The use of this kind of descriptive material and other information in a conflict pattern analysis has been conceptualized. The underlying premise used is that costs and benefits should be distributed in a way that makes cross-cutting conflict patterns among social groups rather than overlapping or polarizing conflict patterns.

conflict pattern analysis

This report is a part of that overall effort and has the following purposes:

this report's purposes:

1. Define social well-being in the terms of preserving and/or enlarging the structure of choice opportunities concerning a given land base.

define - choice opportunities

2. Demonstrate that an analysis of social conflict can be used to contribute to the definition of social well-being.

demonstrate usefulness

3. Specify the concepts necessary to conduct the analysis.

specify concepts

4. Specify the procedures for the analysis.

procedures

5. Illustrate the concepts and procedures by employing data from the Boulder-Grand Divide Planning Unit, Arapaho-Roosevelt National Forest, Fort Collins, Colorado.

illustrate with real data

6. Be able to rank the management alternatives according to their contribution to social well-being.

rank

7. Give the decision-maker a procedure for the analysis of social conflict which can be run at low cost, time, and manpower.

low cost time manpower

PROJECT BACKGROUND

This project was conducted under a cooperative aid agreement for work done by Ms. Jo Anne Tremaine under supervision of David M. Freeman over a one year period (July, 1975 - June, 1976) in cooperation with the River Basin Programs staff, Area Planning and Development Branch, Division of State and Private Forestry, and Office of Multiple Use/ Environmental Quality Coordination, Region 2.

Cooperative Aid Agreement #16-5641CA

David M. Freeman has, in the course of the past two years, developed a three part analysis of the problem of social well-being: 1) futures foregone for choice opportunity; 2) equality of access to employment and recreation opportunity; and 3) social conflict polarization.

three part analysis -
- futures foregone
- equality
- conflict

The purpose of this report is to spell out concepts and procedures developed through this last year to make the conflict analysis operational and applicable within the practical settings within which public, natural resource, and land use decision-makers must operate.

purpose
- concepts
- procedures

EXECUTIVE SUMMARY

The concept of social well-being is something for which planners are responsible, but it has not been adequately measured. Over the course of three years, Professor David M. Freeman has been intermittently working in cooperation with the Division of State and Private Forestry to improve this account, and he has established three sub-accounts* for social well-being:

1. Futures Foregone for Choice Opportunity.

2. Equality of Access to Employment and Recreation Opportunity.

3. Social Conflict Polarization.

This report presents concepts and procedures for one sub-account in the over-all social well-being analysis -- social conflict polarization.

The report provides an analysis which:

1. Shows that some kinds of conflict patterns are better and promote social cohesion and well-being (cross-cutting conflict patterns), and other kinds of conflict patterns undercut social cohesion and well-being (overlapping conflict patterns).

basic value judgement

2. A procedure is presented which has been developed to measure two dimensions of conflict cleavages so as to determine extent of overlapping and crosscutting of the cleavages.

   a.) Position of organizations in support of, or in opposition to, a specific event, proposal, or management alternative.

   b.) Importance of the conflict to the affected social groups.

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*These three sub-accounts are designed to be integrated with each other and with the resource allocation, industrial transactions, and occupation-labor models developed by the Division of State and Private Forestry, Area Planning & Development Unit, U. S. Forest Service, Region 2, Denver, Colorado. (See Freeman, David M., Some Procedures to Display the Effects of Land Management Alternatives on Social Well-Being, USDA, Forest Service, S&PF, AP&D, and MU&EQC, Denver, Colorado.)

The analytic procedures presented show:

1. How existing conflict cleavages in a given planning area can be usefully estimated;

2. How the conflict(s) associated with any given proposed management alternative can be estimated;

3. How different management alternatives can be compared to each other, and ranked, in terms of which cross-cut existing cleavages the most and therefore most contribute to social well-being.

The concepts and procedures are illustrated with data generated about the Boulder-Grand Divide Planning Unit employing four management alternatives, and the report concludes with a social well-being ranking of the four management alternatives in terms of the social conflict estimates. The illustrative analysis was conducted on the Boulder-Grand Divide Unit in cooperation with the local citizens advisory group and with the support of the staff of the Arapaho-Roosevelt National Forest, US Forest Service. The analysis required two days, made use of the volunteer help of the citizens group, and cost approximately $500.

The four management alternatives evaluated were: 1) maintain existing management, 2) manage for maximum wilderness in accordance with the Wilderness Act, 3) manage for recreation diversity, and 4) manage for economic development.

The results of the exercise can be employed as part of a larger social well-being set of procedures which can be tied with existing procedures employed by economists and other natural resource technicians. It is judged that these procedures can be implemented at most feasible costs in money, manpower, and time.

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Glossary of Terms

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Appendix 1 - Materials Employed for the Social Conflict Analysis of the Boulder-Grand Divide Planning Unit

Appendix 2 - Instrument Administered to Each Panel Judge before Initiation of the Social Well-Being Exercise.

Appendix 3 - Characteristics of the Judges--Frequency Distributions on Activity Items for Panel Members.

Note - During the spring of 1977, improved procedures were designed and used on the East Grand Unit of the Arapaho-Roosevelt National Forest. The process is much simpler than that shown in Appendix 1. This material is included as Appendix 4.

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Arapaho-Roosevelt National Forest
Fort Collins, Colorado

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Section I

I N T R O D U C T I O N

A. Overall Objective of the Social Well Being Analysis Project

The overall objective of work with the Division of State and Private Forestry is to provide a useful definition of social well-being, and to determine effective and practical measures of it. Three areas have emerged as significant dimensions of social well-being; futures foregone, equality of social access, and social conflict. This report focuses on one aspect of the larger on-going effort -- the analysis of social conflict to display and evaluate beneficial and adverse effects of management alternatives on social well-being.*

three significant dimensions
- futures foregone
- equality
- conflict

The interests and priorities of the public have changed considerably within the last decade. In response to this change, the Water Resources Council instituted the Principles and Standards for Water and Related Land Resources Planning, which became effective October 25, 1973.**

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*Special thanks for cooperation and support to Coryell A. Ohlander, Cooperative Watershed and River Basin Programs, Area Planning and Development, State and Private Forestry, USDA Forest Service, Region 2, Denver; and to Peter G. Ashton, Office of Programs and Legislation, Situation Assessment Team, USDA Forest Service, Washington D.C.

**These Principles and Standards were published on Sept. 10, 1973, in the Federal Register, Volume 38, No. 174, Part III. These Procedures apply to certain programs administered by US Dept. of Agriculture. Among these are watershed projects planned under Public Law 83-566, Resource Conservation and Development (RC&D), project measure plans planned under Public Laws 74-46 and 75-210, subwatershed projects in the eleven authorized flood prevention watersheds under Public Law 78-534, joint investigations and surveys under Public Law 87-639, and cooperative (Type 4) river basin studies under authority of Section 6 of Public Law 83-566.

The principles and standards provide a framework within which to compare, measure, and judge beneficial and adverse effects of alternative plans. A system of four accounts is used to display such effects:

1. Beneficial and adverse effects on national economic development.

2. Beneficial and adverse effects on environmental quality.

3. Beneficial and adverse effects on regional development.

4. Beneficial and adverse effects on social well-being.

B. Theoretical Rationale

The problems of defining and measuring social well-being are complex and intractable. Arrow (1963, 1950) for example, demonstrated that it is not possible to maximize social welfare (well-being) simply by aggregating the preferences of affected individuals and pursuing options which serve the majority preference(s). Beyond the fact that minority preferences may well be more intensely held than majority preferences, it can be demonstrated that given more than two choices and more than two choosing parties, majority preferences are not stable, but shift significantly simply as a function of the ordering by which the choice alternatives are presented.

Social well-being is defined as being promoted by increasing the context of choice from which people can choose or prescribe for themselves. To preserve and/or enlarge the structure of choice opportunities is to serve social well-being.

important value judgement

This paper represents part of an effort to analyze social well-being effects, not by tapping into the preference patterns of individual persons, groups, or organizations, but by revealing how given management alternatives will alter the context of choice -- reducing, maintaining, or expanding the array of choices available on the land base. It is impossible for the decision maker to determine whether dollars spent to produce board feet of timber will generate more net social well-

how management may alter the context of choice

being than the same dollars spent to make backcountry recreation opportunities available. However, it is possible to know that a given management alternative will shrink or expand the context of choice from which the public may pursue their particular and noncommensurable preferences.

shrink or expand choices

To assess whether an alternative will enlarge or diminish the context of choice, three measurable sets of factors are studied: 1) futures foregone, 2) equality of social access, and 3) social conflict polarization. This report deals only with social conflict analysis. It demonstrates how conflict can enhance or undercut choice opportunities, and offers procedures for conflict measurement which can provide a basis for discriminating among land resource management alternatives.

The importance of social conflict in a decision-making situation is as follows: groups within a community are bound to be in conflict with each other because of divergent interests. This is expected, and causes no major threat to social well-being <u>if</u>, over a number of differences, some groups are allied on some issues, and enemies on others. This is called a crosscutting situation. However, if over a number of issues, the same groups are always fighting each other, the issues overlap, and the situation is polarized. When a conflict is polarized, the organizations in conflict use what resources they have to cut down their opposition. Social well-being is undercut.

importance of social conflict in a decision making situation

Conflict organized in a cross-cutting way can be constructive in that there is, for the decision-maker, the possibility for trade-offs and compromise. Polarized conflict however, can be destructive as well as choice limiting.

Overlapping conflict structures exist when opponent groups are cleaved apart by differences on all significant value fronts - economic, political, educational, religious, ethnic, racial.

Adversaries on one issue are opponents on all. There are no cross-cutting attachments to common values. There is no common ground upon which to compromise, no incentive to negotiate. Opponents ascribe to each other less than human qualities reflecting their lack of shared values. Violence is condoned by both groups in order to protect against the extreme threat represented by the other.

polarized or overlapping conflict structures effects

cross cutting conflict structure effects

Cross-cutting conflict structures exist when opponent groups are in opposition over a limited number of cleavage fronts, but are allied in common cause in other significant conflicts. Actors in disagreement over one or more value preferences find shared attachments when they approach other issue areas. Here lie the roots for social cohesion - and of tolerance to a wide range of social innovation in behavior. Cross-cutting cleavages over new values stitch society together by facilitating constantly renewed willingness to renegotiate disputes and seek grounds for compromise. While crossing cutting conflict patterns are associated with a social cohesion based on negotiation and bargaining among diverse actors who have latitude for trade-off in their dealings, it must be noted that overlapping cleavage structures tend to be associated with a social cohesion based on the need for unity against clearly delineated out-group threat. This kind of cohesion reflects lack of room for negotiation either among the conflicting groups or within them as actors on all sides are compelled to subordinate their differences in the interest of protection against the greater external danger.

overlapping cleavages lacks room for negotiation

best conflict pattern promotes two values

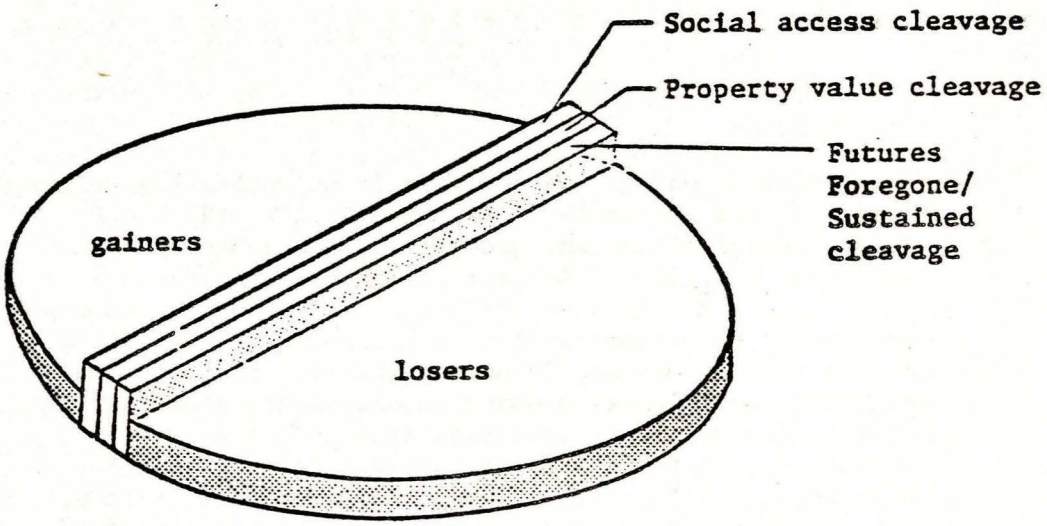
Promoting cross-cutting modes of conflict patterns among social groups maximizes two values: 1) that of non-violent negotiable response to ever present conflict situations, and 2) that of increasing tolerance of dissent, social innovation, and openness to ideas of the variety of social groups making social information more accurate and less expensive to obtain.

For any given management alternative, there is a corresponding pattern of conflict. Some groups will oppose and others will support the alternative. Conflict among specific groups can be employed as a major criterion of social well-being. In effect, the criterion for serving the public interest or social well-being is that costs and benefits should be distributed in a way that makes cross-cutting conflicts among social groups rather than overlapping or polarizing conflict patterns. A simple diagram of the opposite conflict patterns is shown in Figure 1.

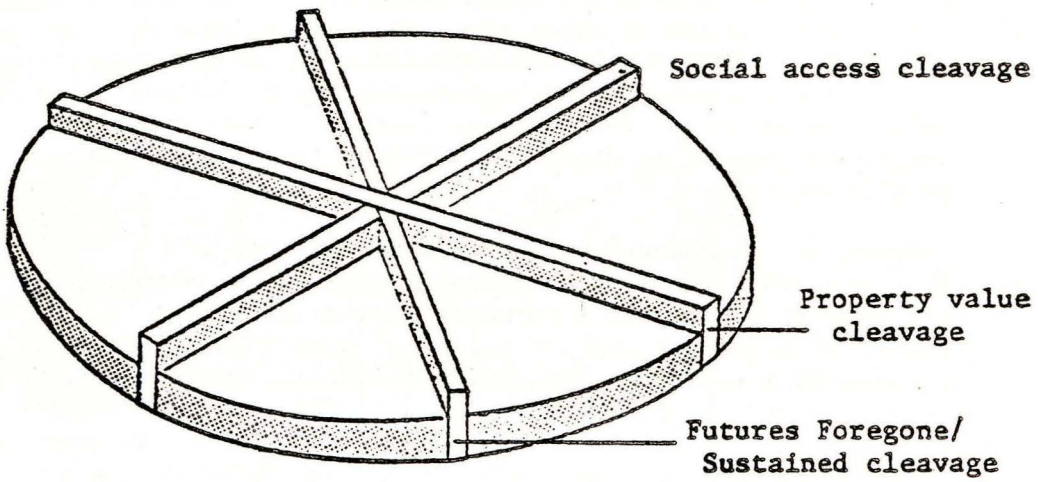
C. Specific Objectives of this Paper

Thus the effort was directed at the achievement of two specific objectives: 1) to develop the concepts and procedures to measure conflict within a river basin or any smaller planning unit, and 2) develop the concepts and procedures determining how the introduction of a new conflict associated with a specific management strategy would affect the existing conflict in a given planning area.

Figure 1. Social Conflict Patterns for Two Extremes.



a. Polarized with overlapping cleavages



b. Stability with cross-cutting cleavages

Section II

THE OPERATIONALIZATION - CONFLICT CONCEPTS and DIMENSIONS

A. Concepts

cleavage defined

Concept 1: Cleavage - A cleavage is defined as "merely a division of a community." (Rae and Taylor, 1970) If, in any social situation, groups are in opposition over an issue, a split or cleavage between them results.

overlapping cleavage

Concept 2: Overlapping Cleavages and High Polarization - If the same groups are in opposition over many issues, creating many cleavages which become superimposed so that certain groups are experiencing detrimental effects repeatedly, there is a strong probability that the intensity of the felt impact upon these groups will rise, and "one overriding conflict of interests will emerge." (Dahrendorf, 1959:215) (See Figure 1a)

If there is an overlapping of cleavages between groups, the effect is cumulative, and a polarization results. Groups are opposed on all issues, and have no shared references. Polarization is associated with violence, non-negotiable issues, and high mutual threat levels between opponents. Polarization therefore undercuts social well-being as opponents serve to cancel out each other's choices.

crosscutting cleavage

Concept 3: Crosscutting Cleavages and Absence of Polarization - To maintain peaceful coexistence among opposing groups within a community, there must be a number of cleavages which "crosscut," such that groups opposed on some issues are allies on others. This serves to decrease the intensity of conflict and to lessen the possibility of violence. If antagonisms present "crisscross" the various groups, they will "prevent disintegration along one primary line of cleavage." (Coser, 1956:72) (See Figure 1b)

B. Dimensions of Conflict Cleavages to be Measured

dimensions to be measured

1. Position (Crystallization)

Members of various groups throughout a community who have a position on a specific issue or issues are said to be "crystallized." (Rae and Taylor, 1970) If a group is

crystallized by an issue, they take a position of 'for', 'against', or 'neutral'. This dimension reflects which groups are fighting with which other groups and which groups are allied.

positions
'for'
'against'
'neutral'

By observing the positions of groups on a number of issues, we observe the number of times the same ones oppose each other. If the same groups oppose each other on a number of issues, the issues are overlapping, and as a result polarization is high.

By determining positions of social group categories* on a number of existing issues, we can see the number of issues which overlap, and thus identify the degree of polarization which already exists within the area of concern. By determining probable positions which social group categories will take on various management alternatives, we can then estimate which of the alternatives will serve to crosscut existing patterns of conflict, and which will serve to overlap them.

positions on existing issues

determine probable positions on alternatives

2. Importance (Salience)

This dimension has to do with the degree of importance of an issue to a group -- importance may be low, moderate, or high. The higher the importance of an issue to a group, the greater its "salience," and the greater the attention paid to the outcome of an issue.

degree of importance of the issue

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*Social group categories - to maintain continuity of language usage in the formal reports as well as in the material used in actual exercises, the phrase will be used to characterize the variety of affected parties on the land base. In the case of futures foregone and social conflict analyses, the meaning of social group category has to do with organized groups with known positions and activities, i.e., judgments are made about futures for logging operations, not about members of such organizations. However, for equality of social access, social group category refers to aggregate groups, e.g., male, female, white, nonwhite.

3. Degree of Polarization - Position and Importance Interaction

Starting with the list of issues used in determining position, we now need to know how the social group categories would view the importance of the issue to them - low, moderate, or high. A summary display that shows all of the social group categories and their positions with importance rated can help identify the existing degree of polarization.

The higher the importance of a number of overlapping issues, the greater will be the polarization.

By determining positions and the associated degree of importance of a number of existing issues, one can observe the degree of polarization which already exists. By determining the probable importance which social group categories attribute to various management alternatives, we can estimate which alternatives will serve to increase that polarization and which will serve to lessen it.

which alternatives increase polarization which don't

An advance note on how this is done. The interaction of position and importance are treated mathematically. Position is given a positive or negative connotation and importance is assigned an ordinal value corresponding to a relative ranking. Since a particular definition for position and importance is not binding on universal mathematics, the interaction computations and measures of polarization can only be valid in the specific context used.

We acknowledge the weaknesses in our mathematical treatment of position and importance, but we think it is a reasonable compromise in an attempt to reduce the usual insurmountable mass of public involvement data - comments, issues, value judgement, and position statements - down to a relatively comprehensible set of scores.

Section III

A PROCEDURE FOR SOCIAL CONFLICT ANALYSIS

A. The Source of the Data

estimated data from the Delphi technique

Judgment is necessary as a source of data. However, since every individual may start with a base of hidden biases, distorted information, fear of ridicule from peers, or reluctance to press views against strong personalities, it is important that the process of obtaining opinions minimizes distortion factors and maximizes the flow of information to and from the individual participant. To do this the Delphi technique is used. The following steps are involved in the technique's operation:

1. The list of items is presented to each participant who remains anonymous from the rest of the group.*

2. Each participant writes down his estimates anonymously and passes it back to the coordinator who in turn:

3. Summarizes the results of that round, setting aside those areas on which substantial agreement occurs and starts the next round for the items on which disagreement exists.

4. At the start of the next round, and keeping anonymity protected, each contributor learns about the reasons for judgments made by the others and then proceeds to render once again a judgment.

5. Within the course of three or four "rounds," there typically is a convergence of judgment and where judgments fail to converge, reasons for the differences emerge.

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*We use a modification in that the group as a whole may receive the background information in a general meeting.

The Delphi exercise is, therefore, a series of sequential interrogations based on feedback of the "best estimates" at each step and focusing on areas of contention. It is an attempt to keep communication of informed judgements free from the biases of personality factors and social status--keeping the environment of judgement and communication as "objective" as possible.

sequential interrogations with sequential feedback of estimates

B. Panel Composition

The group of judges participating in the exercise is small; not randomly selected; and is, in important ways, unrepresentative of the diverse affected publics. Participants are selected because:

1. Each has a background of experience with the planning unit and a familiarity with the kinds of activities which take place on the unit.

2. Professional planning participants are selected not only because of their familiarity with the planning area but also because they possess technical backgrounds appropriate to the kinds of management issues being confronted.

3. Citizen participants are selected because they are active and involved participants in their communities with a knowledge of current issues pertaining to their communities and the planning unit.

It is important to note that participants need not be fully representative of all possible values or interests. It is essential that participants be sufficiently knowledgeable about the planning area and the kinds of management alternatives under consideration that they can identify an impact on an activity or group even if they do not represent that activity or group. It is most reasonable* to expect that knowledgeable judges can identify an impact on an activity or social group category even if they do not personally engage in that activity or are not members of the social group category.

key premise for data validity

*The small amount of information currently available indicates that this is true for the kind of problems faced in land use planning. Better information is necessary. Continued research into whether different panels will yield consistent and time stable results is being pursued under a grant from the Colorado Agriculture Experiment Station, Fort Collins.

THE METHOD OF DATA GATHERING

A. Objectives

By employing the Delphi method of successive estimations for identifying position and importance, the panel of judges will arrive at judgments about 1) where social group categories stand on existing issues, and 2) where they are likely to stand with regard to particular management alternatives.

B. Progression of Steps to Generate Data

1. The panel is brought together and carefully briefed on the attributes of the planning area and each management alternative.

2. After the briefing, the panel members move to their separate work areas, where they are presented with a starter list of major issues of contention within the planning area at the present time.

3. Step 3 of the exercise consists of establishing the existing issues of conflict by considering those presented, and any other conflict issues which panel members deem to be equally as important as those presented. The coordinator summarizes and presents the results to the panel. A number of rounds are then run to generate the complete list of issues.

4. Step 4 of the exercise consists of establishing the position and importance of existing issues to determine the conflict patterns already present in the planning area.

a.) The panel gives a rating of positions as might be voiced by selected groups within each of the social group categories on each issue. There are three possible choices:

+ for

- against

0 neutral

b.) The panel then rates the importance of each issue to affected groups within the social group categories. The scale of importance is:

1 low importance

2 moderate importance

3 high importance

If a social group category is neutral, no importance score is registered. Table 1 shows an example of the participants' tabulation sheet. See also Appendix 1, Part 2.

c.) Once the positions and importance of the existing issues has been determined through a succession of rounds, the panel moves on to the next step.

5. Step 5 of the exercise consists of looking at the alternatives offered and repeating the process for Table 1 and 2 to show the social group categories. As before:

a.) The panel gives a rating of positions they believe groups within the social group categories would take for each proposed management alternative, using the position ratings of + (for), - (against), and 0 (neutral).

b.) The panel then rates the importance they believe groups within the social group categories would attribute to each proposed management alternative, using the following importance scale: 1 - low, 2 - moderate, and 3 - high.

If the panel estimates certain social group categories to be neutral, no importance score is registered for them. (See Appendix 1 for specific steps taken.)

c.) Once the positions and importance of the proposed management alternatives has been determined through a succession of rounds*, the estimated scores for each management alternative are then revealed.

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*Rounds will continue until there is concensus or a stable difference. Differences are explored to expose their meaning.

C. Doing the Analysis

Once concensus is reached, the coordinator derives estimates of position and importance on the existing issues by taking the median scores from the panel members' final round tab sheets (see Table 1). The median scores are recorded on data sheets (see Table 2).

For example, in round #1 participant #12345 shows sawmills with a low level of importance for issue 1. As the rounds progressed she/he became aware of other information and as a panel settled on "high" as indicated by the '+3' in Table 2.

The coordinator must now use Table 2 data to prepare Table 3 "Conflict Patterns over Existing Base Issues and Management Alternatives." The process is as follows:

1. A base social group category is selected. The choice is arbitrary -- any social category which takes a position on all issues may be chosen for purposes of comparison.

2. To render this data in analyzable form, it is determined from the data sheets the number of times each social group category is judged to take an alliance with or opposition to, the base social group category. (See Table 3) For example, if sawmills/ planing mills are the base social group category, logging contractors are either estimated to be allied with, in opposition to, or neutral on a given issue or management alternative.

3. Using the list of issues established in Step 3, then:

   a.) The position of each social group category is recorded in a column headed 'Existing Issues' (see Table 3). The number which appears includes the number of times that social group category is estimated to either ally with, be opposed to, or be neutral to, the position taken by the selected base group category. (These numbers come from the median estimates recorded on the data sheets, Table 2)

   b.) The "observed" pattern of support and opposition is then compared to the "expected" pattern which would ideally occur if there was a perfect pattern of cross-cutting conflicts. If conflicts were perfectly cross-cutting, one could expect that each social group category would be half the time allied with the base group category and half the time hostile.

c.) The question is then asked: how much deviation is there between the observed patterns of conflict positions and the ideally expected pattern if there were perfectly crosscutting cleavages? Scores are computed by determining the difference between the number of times a given social group category was "an ally of" the base group category and the expected number and determining the difference between the number of times a given social group category was "hostile to" the base group category and the expected value. For logging contractors the computation would be: Allies 6 - expected 3 = 3; Hostile 0 - expected 3 = -3. The total deviations (signs ignored) from expected are added up to give a "units of deviation from a pure crosscutting pattern."

4. Relating the conflict pattern associated with each proposed management alternative to the base conflict pattern.

a.) The question now is: given that the social group categories are estimated to tend to assume specific conflict patterns, will any given proposed management alternative be estimated to introduce more or less crosscutting conflict into the existing pattern? More polarization will be reflected in increasing the units of deviation from the pure crosscutting distribution. Less polarization will be reflected in a reduction of the numbers of deviation units. (see TABLE 3)

b.) Each Management Alternative, one by one, is compared to the existing conflict pattern.

c.) A (+1) appears in the Management Alternative column if the position taken by the group category would increase the deviation from the ideal crosscutting situation. A (-1) appears if the position established to be taken by the social group category would decrease the deviation from the ideal crosscutting situation. A zero appears if the social group category is estimated to take a neutral stance on the proposed management alternative and therefore neither increases nor decreases the deviation.

d.) Each plus or minus value is then multiplied by the appropriate "importance" value. Importance could vary from 1 (low) to 2 (moderate) to 3 (high). Therefore, each deviation from the existing cleavage pattern can be "weighted" by the value reflecting the degree of "importance" estimated to be granted by the affected social group category.

e.) If one sums the products of the plus/minus deviation and the importance score, one will derive a "polarization score" for each management alternative. (see TABLE 3)

TABLE 1 - Example of the Tabulation Sheet Used by Individual Participant

Participant Number 12345 ROUND 1

Social Group Categories	ISSUE 1		ISSUE 2		ISSUE 3		ISSUE 4		ISSUE 5		ISSUE 6	
	P	I	P	I	P	I	P	I	P	I	P	I
Sawmills/ Planing	+	1	+	3	+	1	+	3	-	1	-	3
COMMENTS	Jobs and country need it.		Will open up the wilds to people.								Makes Gov't. too power happy. Already too much'don't.'	
Other groups appropriate												

P = Position on the Issue: + for, - against, 0 neutral

I = Importance to the group: 1 low, 2 moderate, 3 high

TABLE 2 - Summary of All Participants

Positions of Social Group Categories on Issues as Estimated by the Panel of Judges

Social Group Categories	Issue 1	Issue 2	Issue 3	Issue 4	Issue 5	Issue 6
Sawmills/ Planing	+3	+3	+1	+3	-1	-3
Wildlife Recreation	-3	-2	-2	-3	-3	+3
Cattle/Sheep/ Grazing	+2	+2	-2	-2	-1.5	-2
Other groups appropriate to planning unit						

TABLE 3

Conflict Patterns Over Existing Base Issues 1/ and Management Alternatives

Social Group Categories	Existing Issues: Observed Positions of other Groups to Base Group Category			Expected if pure cross-cut pattern 50/50 split		Deviation from Expected Ally/ Hostile	Management Alternative A Base Group Category			Change in Deviation X Importance = Sum	
	Ally	Hostile	Neutral	Ally	Hostile		Ally	Hostile	Neutral	Dev.	Impt.
Sawmills/ Planing mills	6	0	0	base group							
Logging contractors	6	0	0	3	3	3/3	Yes			+1	1
Minerals/ Mining	6	0	0	3	3	3/3		No		-1	3
Wildlife Recreation	0	6	0	3	3	3/3	Yes			-1	3
Cattle/ Sheep	4	2	0	3	3	1/1	Yes			+1	1
Other groups appropriate to planning unit											
						Sum up units of deviation from pure cross cutting pattern sum = 20				sum -4	

1/ Assume we have 6 existing issues.

Section IV

AN ILLUSTRATION OF THE CONFLICT PROCEDURES

The Boulder - Grand Divide Planning Unit
Arapaho-Roosevelt National Forest

BACKGROUND

A. The Setting

The Boulder-Grand Divide Unit is within the Arapaho and Roosevelt National Forests in north-central Colorado. The approximate boundary extends from Allenspark, south to Nederland, west to near Boulder, then northwest to the Rocky Mountain National Park boundary. The Planning Unit is located within a five-county area of influence comprised of Boulder, Clear Creek, Gilpin, Grand and Larimer Counties. The area is divided by the Continental Divide with the more rural Grand County to the west, and the more urban Boulder and Larimer Counties to the east. Clear Creek and Gilpin Counties on the south are rural but heavily influenced by the neighboring Denver metro area.

B. The Problem

The efforts in this particular example were directed at determining social conflict patterns associated with implementation of alternative management strategies in the Boulder-Grand Divide Planning Unit. The effort was to determine the conflict cleavage patterns operating at the present time associated with the planning unit, and to determine conflict patterns which would result from management alternatives being implemented by the Forest Service. The concern was to estimate the degree of polarization (overlapping) of conflict issues which already existed in the counties surrounding the planning area, to estimate the extent to which each management alternative would increase or decrease polarization, and to rank them according to the degree of increase or decrease in polarization they represented.

C. The Panel Members and their Characteristics

The group of judges participating in the exercise was small, not randomly selected, and was in important ways unrepresentative of the diverse affected publics. Participants were selected because:

1. Each had a background of experience with the Boulder-Grand Divide land area and a familiarity with the kinds of activities which take place on the unit.

2. Forest Service participants were selected not only because they possess technical backgrounds appropriate to the kinds of management issues being confronted, but also because of their familiarity with the planning area.

3. Citizen participants were selected because they had volunteered to serve on the Northern Front Range Land Use Study group--a group of private citizens who participated in a series of public involvement meetings conducted by the Arapaho and Roosevelt National Forests over the preceeding 10 months.

It is important to note that participants need not be fully representative of all possible values or interests.* It is essential that participants be sufficiently knowledgeable about the planning area and the kinds of management strategies under consideration that they can identify an impact on an activity or group even if they do not represent that activity or group. It is most reasonable to expect that knowledgeable judges can identify an impact on an activity or group even if they do not personally engage in that activity or are not members of that group. In fact, most judges on most items, agreed quickly as to the nature of management alternative impacts on items under consideration. In those cases where disagreement occurred, it was frequently reduced in succeeding "rounds" of the exercise and when differences persisted after three rounds, discussion was carried out to uncover the nature of the outstanding differences of judgment.

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*Colorado Agriculture Experiment Station research currently underway under hypothesis that different groups will generate consistent results. Existing results and those reported in the literature either confirm this hypothesis or are vague as to the groups.

4. The demographic characteristics of the judges are summarized in Table 4.

Three foresters serving on panel one were joined by a real estate broker, land use planner, city director of development, a resort owner/operator, and two county planners.

D. The Nature of the Management Alternatives Under Investigation

The Management Alternatives evaluated for their inputs on social well-being are as follows:

1. Alternative A - Continue Present Management
Management emphasis is directed toward long-term continuation of present uses and activities. Primary emphasis is to be placed on maintaining endangered and threatened fish and wildlife habitats along with maintenance of historical and cultural sites. Dispersed recreational activities in a natural environment, protection and use of unique natural areas, and primitive types of recreation will also receive emphasis, along with improvement of fish and wildlife habitats. Other resource uses and activities would be directed toward the protection of recreation and wildlife values. There is no wilderness now, nor would there be in the future, although primitive, non-motorized recreation would be provided.

2. Alternative B - Maximum wilderness

Protection and enhancement of amenity values will receive the primary emphasis. These amenities or intangible products and uses include: maximizing wilderness acreage within the definition of the Wilderness Act and Forest Service policy, fish and wildlife habitats and protection of scenic and cultural features. Other resource uses and activities would be subordinated to the goals of environmental protection and maximizing wilderness within the definition of the Wilderness Act.

3. Alternative C - Recreation Diversity

Optimize outdoor recreation with primary emphasis on providing diversity of opportunities within the limits of one tank of gas to and from the Denver Metro area. Protection and enhancement of amenities and intangible values will receive emphasis. Fish and Wildlife habitats will be protected and enhanced in support of optimizing recreation diversity. This alternative would be between Alternative B and D in the amount of wilderness provided.

4. Alternative D - Economic Development

Optimize production of tangible forest products and resources. Major emphasis will be placed on assisting local and regional economic growth and stability through development of high intensity recreation sites and utilization of renewable surface resources which include timber, forage, wildlife and water. Resource utilization activities will emphasize maintaining compatibility of other resources such as silvicultural practices to improve water yields. Management emphasis will provide for maximizing economic values at minimal environmental costs. This alternative would have some wilderness provided, but less than that provided by any of the other alternatives.

THE METHOD OF DATA GATHERING

The panel of judges, employing the Delphi method of successive estimations, arrived at judgments about: 1) where key social group categories stand on existing issues and 2) the positions the social group categories are likely to take with regard to particular management alternatives, and the importance they will attribute to each.*

The panel was presented with four issues of contention within the planning area at this time. They were:

1. For or against population growth and economic development.
2. For or against the construction of a trans-mountain highway.
3. For or against allocation of more water to municipal use.
4. For or against development of utility services and accompanying roads in the Boulder-Grand Divide area.

The panel then added two more issues, which were:

5. For or against a ski area at Devil's Thumb.
6. For or against more restrictive county zoning.

Each panel member was asked to give a rating of positions taken by organizations within the 16 social categories of organizations on each issue. There were three possible choices:

+ for, - against, 0 neutral.

The panel then rated the importance of the issue to affected social group categories. The scale of importance was:

1 low, 2 moderate, 3 high.

If the social group categories were neutral, no importance score was registered.

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*A sufficient number of rounds is run to secure concensus on estimates. However, if at the end of a number of rounds there are large differences in estimates, the coordinators of the exercise probe systematically to secure underlying reasons for the apparent irreconcilable differences. In those cases where differences are small, the median estimate is used. In the illustrative exercise reported on here, there were no wide differences of an irreconcilable nature which emerged.

Results and Interpretations

The panel's estimates of which social group categories take which position on the base issues and on the four management alternatives are presented in Table 5.

Table 6 presents the panel's estimates--in a format suitable for analysis--regarding the existing patterns of conflict over existing issues concerning the Boulder-Grand Divide Unit and estimates about the impact of the conflict associated with each management alternative on the existing conflict patterns. To assist in the reading and interpretation of Table 6, the reader should comprehend the following analytical procedures upon which the Table is based:

A. Establishing Base Conflict Patterns

1. A base social group category is selected. The choice is arbitrary--any group category which takes a position on all issues may be chosen for purposes of comparison.

2. Each other social group category then can be seen as taking a position of alliance with, or opposition to, the base social group category. For example, cattle/sheep grazing organizations are either estimated to be allied with, in opposition to, or neutral with regard to sawmills/planing mills on a given issue.

3. The number of issues, upon which social group categories take positions is established. In this case there are six issues upon which social group categories took various positions.

B. Once the list of issues is established, then:

1. The position of each social group category is recorded in the column headed Issue Base. The number which appears includes the number of times that social group category is estimated to either ally with, be opposed to, or be neutral to, the position taken by sawmills/planing mills - the selected base group category. Number 6 under "for Sawmills" and Number 0 under "Against Sawmills" would indicate that the category of organizations was estimated to support the Sawmills/Planing mills position six out of six times.

2. The "Observed" pattern of support and opposition is then compared to the "expected" pattern which would ideally occur if there was a perfect pattern of cross-cutting conflicts. If conflicts were perfectly cross-cutting, one could expect that each social group category would be half the time for Sawmills/ Planing mills and half the time against. Therefore, given six issues, the expected pattern for perfectly cross-cutting positions on the conflict fronts is 3/3 for each social group category.

3. The question is now asked: how much deviation is there between the observed patterns of conflict positions and the ideally expected pattern if there were perfectly cross-cutting cleavages? Scores are computed by determining the difference between the number of times a given social group category was "for" sawmills and the "expected number of 3" and determining the difference between the number of times a given social group category was "against" sawmills/planing mills and the "expected value of 3." Because it is units of deviation being counted, all numbers have positive signs and all values can be added in a straightforward fashion. In the case of Table 6, the sum of deviates equals 59 units of deviation from that which would have occurred if there had been a pattern of pure cross-cutting conflict.

C. Relating the Conflict pattern associated with each Proposed Management Alternative to the Base Conflict Pattern.

1. The question now is: given that the social group categories are estimated to tend to assume the conflict patterns seen in Table 6 (Columns A_1, A_2 and A_3), will any given proposed management alternative be estimated to introduce more or less cross-cutting conflict into the existing pattern? More polarization will be reflected in increasing the units of deviation from the pure cross-cutting (3/3) distribution. Less polarization will be reflected in a reduction of the numbers of deviation units.

2. Each Management Alternative, one by one, is compared to the existing conflict pattern presented in Columns A_1, A_2 and A_3. The positions estimated to be taken are displayed under column headings C_1, 2, 3, 4; D_1, 2, 3, 4; E_1, 2, 3, 4; F_1, 2, 3, 4.

3. A (+1) appears if the position taken by the social group category would increase the deviation from the 3/3 split. A (-1) appears if the position established to be taken by the social group category would decrease the deviation from the 3/3 split. A zero appears if the social group category is estimated to take a neutral stance on the proposed management alternative and therefore neither increases or decreases the deviation.

4. Each plus or minus value is then multiplied by the appropriate "importance" value. The reader will recall that the panel of judges estimated the degree of "importance" that the social group category gave to the issue at hand. Importance could vary from 1 (low) to 2 (moderate) to 3 (high). Therefore, each deviation from the existing cleavage pattern can be "weighted" by the value reflecting the degree of "importance" estimated to be granted by the affected social group categories.

5. If one sums the products of the plus/minus deviation and the importance score, one will derive a "polarization score" for each management alternative. The scores are recorded at the bottom of Table 6, and result in the following ranking of proposed management alternatives:

a. Recreation Diversity--reduces polarization by 8 units. From a conflict analysis standpoint, this is the preferred alternative.

b. Continue Existing Management--increases the deviation from the "pure" cross-cutting pattern by 15 units.

c. Maximum Wilderness--increases the deviation from the "pure" cross-cutting pattern by 18 units.

d. Economic development--increases the deviation from the "pure" cross-cutting pattern by 36 units. Therefore, this proposed management alternative contributes the most to polarization and is least desirable.

CONCLUSIONS OF THIS EXERCISE

1. In terms of conflict polarization, the four proposed management alternatives are ranked as follows in the order of their desirability:

Management Alternative	Contribution to Increased Conflict Polarization
Recreation Diversity	-8
Continued Existing Management	+15
Maximum Wilderness	+18
Economic Development	+36

Key points regarding the conflict analysis are:

a. Three of the four proposed alternatives are estimated to increase conflict polarization and thereby "flunk" the conflict test.

b. The Economic Development Alternative is estimated to be, by good margin, the most polarizing and therefore least desirable from a social well-being standpoint.

c. There is no way, at this time, to estimate just how much of an increase in conflict polarization can be absorbed before critical unknown thresholds are exceeded and, as a result, generate significant problems of social cohesion and negotiability or differences among affected groups. One might ask, "could we get away with at least the lesser increases in polarization represented by either the maximum wilderness and existing management alternatives?" The answer must be: No one knows. Given the limited knowledge available, the only responsible recommendation is to avoid increasing levels of conflict polarization if at all possible.

d. The criterion of conflict polarization must be the most heavily weighted of the three social well-being criteria--it is simply more important than social access equality and futures foregone.*

*Note: It is recognized that there is an interdependence between Futures Foregone, equality, and conflict. Foregone Futures for choice opportunities and increasing inequalities can be the sources of serious conflict. But, the critical factor is the organization of conflict--cross-cutting/overlapping--not its sheer quantity.

No matter how great the estimated equality of impact, no matter how few the futures foregone, if implementation of a management alternative would result in high degrees of conflict polarization, social well-being is seriously under-cut. High levels of polarization lead to high levels of mutual threat among opponents and this leads to willingness among threatened opponents to employ whatever resources may be at hand to "cut down" the opponent choices.

When social groups begin "cashing in" resources to prevent each other from realizing their respective objectives, we know that social well-being is NOT being served.

Clearly, the Recreation Diversity Alternative is superior from the social conflict polarization standpoint.

2. The concepts have been operationalized and the procedures found to be workable. With this first major step accomplished, it is now necessary for further research to be done to strengthen the reliability and validity of the measures. This can be accomplished by determining how sensitive the outcomes of the procedures are to changes in panel members for a number of environmental impact statements.

TABLE 4

Demographic Characteristics of the

Panel Members

		Panel
I.	Age: Under 25	0
	25-34	3
	35-44	4
	45-54	2
	55-64	0
	65+	0
II.	Sex: Male	8
	Female	1
III.	Ethnic Group Status:	
	Anglo	9
	Chicano	0
	Black	0
	Indian	0
IV.	Education:	
	Advanced Degree (M.A., M.S., M.E., M.D., Ph.D., LLB., etc.)	2
	Four Year College Graduate (A.B., B.S., B.M., etc.)	6
	1-3 Years College	1
V.	Total Family Annual Income:	
	10,000-12,499	0
	12,500-14,999	2
	15,000-17,499	1
	17,500-19,999	2
	20,000-24,999	1
	25,000-29,999	2
	30,000+	1

*First panel of judges consists of those who participated in all three dimensions of social well being. N=9

TABLE 5 Positions of Social Group Categories on Six Issues as Estimated by the Panel of Judges (data sheet)

Social Group Category	Issue #1 (Base Issue) Population Growth & Economic Dev.	Issue #2 Construc. of Trans-Mt. Highway	Issue #3 Dev. of Utility services and roads	Issue #4 Dev. of Utility services and roads	Issue #5 Ski Area	Issue #6 More restrictive county zoning
Sawmills/Planing	+3	+3	+1	+3	-1	-3
Logging	+3	+3	+1	+2	-1	-3
Cattle, Sheep, Grazing	+2	+2	-2	-2	-1.5	-2
Other Livestock	+1	0	-1	0	0	-2
Minerals/Mining	+3	+2.5	+1	+3	-1	-1
Watershed/Water users	+2	+2	+3	+2	-1	+3
Eating/Drinking	+3	+2	+3	+2	+3	0
Personal Services	+3	+2	+2	+2	+3	0
Wilderness	-3	-3	-3	-3	-3	+3
Wildlife Rec.	-3	-2	-2	-3	-3	+3
Dispersed Rec.	-2	-2	-2	-2	-.5	+2.5
Developed Rec.	+2	+2	+2	+2	+3	0
Auto/Gas	+3	+3	+2	+3	+3	-1
Trans./Warehousing	+2.5	+3	0	+3	+2	-1
Food Processing	0	0	+1	+.5	+1	-1
Other Retail	+3	+2	+3	+2	+3	-.5

TABLE 5 Estimated Positions of Social Group Categories on Four Management Alternatives

Social Group Categories	Alternative A Continue Present Management	Alternative B Maximum Wilderness	Alternative C Recreation Diversity	Alternative D Economic Development
Sawmills/Planing	+2	-3	-2	+3
Logging	+2	-3	-2	+3
Cattle, Sheep, Grazing	+2	-2	-1	+3
Other Livestock	+2		+2	+1
Minerals/Mining	+1	-3	-2	+3
Watershed/Water users	+2	-2	-1	+2
Eating/Drinking	+1	+1	+2	+2
Personal Services	+1	+1	+2	+2
Wilderness		+3	-2	-3
Wildlife Rec.	+2	+3	+1	-2
Dispersed Rec.	+2	+2	+3	-2
Developed Rec.	+2	-2	+3	+2
Auto/Gas	+1	-1	+3	+2
Trans/Warehousing	+1	-1	+1	+3
Food Processing	+1		+1	+2
Other Retail	+1	+2	+2	+3

TABLE 6

CONFLICT PATTERNS OVER SIX EXISTING BASE ISSUES

Social Group Categories	Sawmills--Observed Positions on Six Base Issues			Expected if there is Pure Cross-Cutting Pattern			Deviation from Expected
	Ally	Hostile	Neutral	Ally	Hostile	Neutral	Ally/Hostile
	A_1	A_2	A_3	B_1	B_2	B_3	B_4
Sawmills/ Planing	6	0	0				
Logging	6	0	0	3	3	0	3/3
Minerals/ Mining	6	0	0	3	3	0	3/3
Watershed/ Water Users	5	1	0	3	3	0	2/2
Transportation/ Warehousing	5	0	1	3	3	0	2/3
Auto/Gas	5	0	1	3	3	0	2/3
Other Retail	5	1	0	3	3	0	2/2
Eating/Drinking	4	1	1	3	3	0	1/2
Personal	4	0	2	3	3	0	1/3
Developed Recreation	4	0	2	3	3	0	1/3
Cattle/Sheep Grazing	4	2	0	3	3	0	1/1
Other Livestock	3	2	1	3	3	0	0/1
Food Processing	3	0	3	3	3	0	0/3
Wildlife Recreation	1	5	0	3	3	0	2/2
Dispersed Recreation	1	5	0	3	3	0	2/2
Wilderness Recreation	1	5	0	3	3	0	2/2
							sum = 59 units of deviation from pure

TABLE 6

Social Group Categories	MANAGEMENT ALTERNATIVE, ENVIRONMENTAL QUALITY				MANAGEMENT ALTERNATIVE, CONTINUE EXISTING MGT.			
	Ally	Hostile	Neutral	Dev.xImp.	Ally	Hostile	Neutral	Dev.xImp.
	C_1	C_2	C_3	C_4	D_1	D_2	D_3	D_4
Sawmills/ Planing								
Logging	X			+1 3	X			+1 2
Minerals/ Mining	X			+1 3	X			+1 1
Watershed/ Water Users	X			+1 2	X			+1 2
Transportation/ Warehousing	X			+1 1	X			+1 1
Auto/Gas	X			+1 1	X			+1 1
Other Retail		X		-1 2	X			+1 1
Eating/Drinking		X		-1 1	X			+1 1
Personal		X		-1 1	X			+1 1
Developed Recreation	X			+1 2	X			+1 2
Cattle/Sheep Grazing	X			+1 2	X			+1 2
Other Livestock			X	0 0	X			+1 2
Food Processing			X	0 0	X			+1 1
Wildlife Recreation		X		+1 3	X			-1 2
Dispersed Recreation		X		+1 2	X			-1 2
Wilderness Recreation		X		+1 3		X		+1 2
				sum = +18				sum = +15

units of deviation from pure cross-cutting

TABLE 6

Social Group Categories	MANAGEMENT ALTERNATIVE RECREATION DIVERSITY				MANAGEMENT ALTERNATIVE ECONOMIC DEVELOPMENT			
	Ally	Hostile	Neutral	Dev.xImp.	Ally	Hostile	Neutral	Dev.xImp.
	E_1	E_2	E_3	E_4	F_1	F_2	F_3	F_4
Sawmills/ Planing								
Logging	X			+1 2	X			+1 3
Minerals/ Mining	X			+1 2	X			+1 3
Watershed/ Water Users	X			+1 1	X			+1 2
Transportation/ Warehousing		X		-1 1	X			+1 3
Auto/Gas		X		-1 3	X			+1 2
Other Retail		X		-1 2	X			+1 3
Eating/Drinking		X		-1 2	X			+1 2
Personal		X		-1 2	X			+1 2
Developed Recreation		X		-1 3	X			+1 2
Cattle/Sheep Grazing	X			+1 1	X			+1 3
Other Livestock		X		-1 2	X			+1 1
Food Processing		X		-1 1	X			+1 2
Wildlife Recreation		X		+1 1		X		+1 2
Dispersed Recreation		X		+1 3		X		+1 2
Wilderness Recreation	X			-1 2		X		+1 3
				sum = -8				sum = +36

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Coser, Lewis 1956 "The Functions of Social Conflict." Glencoe, Ill.: Free Press.

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Glossary of Terms

Cleavage: a division within a community reflecting the fact that people/groups are consciously opposing each other.

Context of choice: the options available on the land base from which people can choose.

Crosscutting cleavages: cleavages where enemies on some issues are allies on others. This type of conflict enhances social well-being.

Crystallization: the position taken by categories of social groups 'ally', 'hostile', or 'neutral' to an issue generating a cleavage.

Equality of social access: equity of distribution of employment and recreation opportunities by race and sex.

Futures foregone: choices presently available may become unavailable or available only at significantly higher prices, in terms of money, time, or effort.

Polarization: a result of cleavage overlap -- a division of the community into two hostile oppositions. Choice context is undercut, there is no compromising, propensities for violence increase, and highly threatened opponents tend to employ their resources to undercut others' values and choices.

Salience: the importance a social group category attributes to a conflict cleavage.

Social group categories: sixteen categories of social groups provided by the Forest Service from their input/output model, i.e. sawmills/planing mills, logging contractors, etc. The input/output model tracks industry transactions through the planning area.

Note:

May 1977. A second set of instructions and procedures were developed for another study. They are shown in Appendix 4.

APPENDIX 1

Materials Employed for the Social Conflict Analysis of the Boulder-Grand Divide Planning Unit

1. Instructions to Panel Member
2. ISSUES List
3. MAP BOARD - with overlay and base map
4. Participant's ISSUES Tabulation Sheet
5. Participant's MANAGEMENT ALTERNATIVE Tabulation Sheet
6. All Participants CHART

Instructions to Panel Member

INTRODUCTION

We would like to welcome you to this exercise. Our efforts are directed at determining social conflict patterns associated with implementation of management alternatives in the planning area. We appreciate your assistance.

Our problem today concerns the conflict operating at the present time within the planning area, and the conflict which will result from the decision of the Forest Service in managing land within or proximate to the planning area. There will always be conflict in an area, and there will always be conflict generated by management decisions. Our concern is not with elimination of conflict, but with estimating the impact of different management alternatives on the conflict between groups that are already at odds with each other.

We want you to help us estimate the impact on conflicts amoung groups.

To accomplish our objectives, we need your help to estimate; 1) where key social groups stand on existing issues, 2) the positions you think the social groups will take with regard to particular management alternatives, and 3) the degree of importance associated.

position and importance

The Approach

You will be asked to make a series of estimations, along with other members of your panel, in an effort to determine what the consequences for social conflict will be if the Forest Service were to adopt different management alternatives in the Boulder-Grand Divide Unit.

This approach is cumulative. The first round of your responses will reveal a "first cut" at the positions and issues. Think of the first round as exploratory. By the completion of the second or third rounds, we expect that you will probably see a convergence of group views on the issues. At the conclusion of each round, the reasoning of each participant is fed back to all participants for their consideration. By no later than the third or fourth round, there will probably be clearly defined patterns of judgment in the panel. At this point some group discussion may be carried out based upon the panel's consensus or polarization. We expect to do what we can to preserve the anonymity of the respondents.

series of rounds or approximations

Your options with respect to any particular item:

1. You may choose not to respond to an item if you feel unsure about it. — may be no response

2. You may consult with members of the administering team to secure clarification, and you are welcome to consult briefly with other staff in the office if you wish. Please do your best to keep the time deadlines set for each round so as not to waste time of the other respondents in the group. — consult with others

3. After each round, you have the option of retaining your original response, or to change or modify it in lieu of what you've been exposed to. — may change answer

4. Please express short arguments or comments on your judgments. — comments

Please choose a five digit number which you will use to identify your response through the series of rounds. Be certain that this number is the only identification to connect you with the questionnaire. — your number identification

First Phase - existing conflicts

Now we would like you to turn to the Map Board in front of you which has drawn on it 16 circles representing 16 categories of people and social groups, along with a map of the planning area and its surrounding counties.

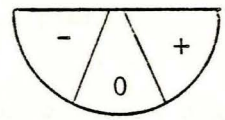
Map Board

Some major issues are listed on the preceding page. Please indicate your best judgment as to the position, and the intensity of the position, taken by the groups within the social group categories represented by the circles.

position and importance by group

Step 1: Write your participant number in the space provided.

Step 2: In observing the circles on the bottom halves:



These represent the positions that groups in a category could take:

Position	Code
Against	-
Neutral	0
For	+

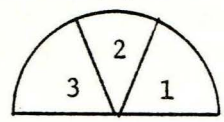
- against RED

0 neutral YELLOW

+ for GREEN

We would like you to provide your best estimate as to which position groups in each category have taken, and denote that position by coloring in the section with the appropriate colored marker. If you don't know where a group category stands regarding a particular issue, please leave it blank.

On the top half of each circle, you will note the following:



The numbers represent the importance of an issue to groups within the social categories:

Importance	Code
High	3
Moderate	2
Low	1

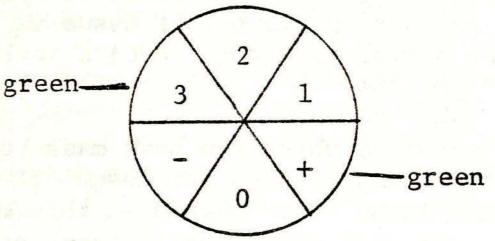
3 high importance

2 moderate importance

1 low importance

Please color the appropriate importance space with the same color employed to denote position for each particular category. For example:

Example
+ for
3 importance
color both
green



If you have judged a social category to be neutral on the position, then it will have no score for importance.

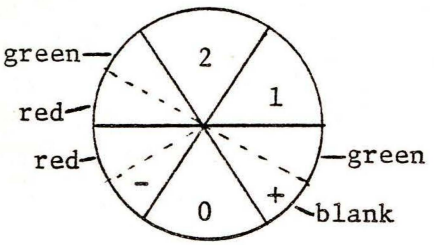
If there is a division within a social category concerning position and importance, please make it clear that there is a split by diagraming it in the following way on the Map Board and by providing the following information on your tabulation sheet:

a. Identify the nature of the split (geographic, ideological, etc.)

b. Identify which organizations within the social category are involved on which side of the issue.

Example:

ISSUE:
a proposal to limit hunting in the area.



WILDLIFE RECREATION

P		I	
+	-	3	3

ideological -
hunters are against
Audubon society is for

So, please start with ISSUE #1. Place a clear plastic sheet over the Map Board, and write Issue #1 in the space provided. Next, please indicate which position you believe groups or organizations in each social category have taken on that issue and how important in your judgment that issue is to organizations within each social category. Record your estimates on your Issues Tab Sheet.

Start with Issue #1

Next, erase the plastic sheet on which you have made your estimates on the Map Board. Label the sheet Issue #2, and proceed in the same manner as with Issue #1. Proceed in this manner until you have rendered your best estimates for each of the issues.

go to Issue #

You have examined the issues which were determined to be of major importance by spokesmen for the five county area. If you feel that there are additional issues of major importance, please write them in on the Tab Sheet, in the space provided for Issues 5 to 7 and state reasons why you deem them important.

extra issues

The results of this first phase is to determine the existing conflict patterns within the planning area. This establishes the base against which Management Alternatives are measured for the effects on the existing conflict patterns.

Here is a full list of the steps you will be following, which you may want to place next to your Map Board to refer to during the exercise.

Things to do with Map Board

1. Put a clean plastic overlay sheet on Map Board.

2. Color in your judgment of the position and importance of the Issue for each social category using green to denote 'for,' yellow as 'neutral,' and red 'against.' Color importance low (1), moderate (2), or high (3) the same color as the 'position' color.

Things to do with Participant's Issues Tab Sheet

3. When you are satisfied with Step 2, record your judgments on the Participant's Issues Tab Sheet. Be sure to put your number on it.

4. If any state or national organizations are involved in the issue, write them in the appropriate space. Give their position and importance, also.

5. Repeat Steps 1 through 4 for each issue.

6. If there are any additional issues which you feel are important, write them in on the Tab Sheet and state the reasons why.

7. When you have finished recording all of your judgments on the Tab Sheet, signal a coordinator, who will then pick up the sheet.

Things to do with the All Participants Chart

8. Next, the coordinator will hand you another Participant's Tab Sheet. You will record the Participant Number, the judgments and comments for that on your chart labeled All Participants Chart. Please do this for each Tab Sheet handed to you.

9. When you have all the information recorded for the other people, think about what changes you might make in your own responses. Return to your Map Board and reconsider the entries you made in Step 2. Then continue with Step 3 through 9. Note on your new Participant Issues Tab Sheet the Round number you are working on.

10. At some point the coordinators will have what they need and take you into the next phase.

Second Phase - proposal conflicts

Now that we have determined the existing conflict patterns in the planning unit, we need to determine the positions, and the intensity of those positions, which you feel that the groups within the 16 social categories will take for or against the proposed Management Alternatives.

Returning to the Map Board, we would like for you to provide your best estimate of the position that each social group category will take relative to each Management Alternative.

REMEMBER:

- \- against RED
- 0 neutral YELLOW
- \+ for GREEN

Please indicate how each social group category in your best judgment would view the importance of each Management Alternative.

REMEMBER:

3 high importance

2 moderate importance

1 low importance

Color the importance space the same color as used in the position space.

While coloring in your Map Boards, please record your decisions on your Tabulation Sheet for each Management Alternative.

REMEMBER:

position (P):

- \- against RED
- 0 neutral YELLOW
- \+ for GREEN

importance (I):

3 high

2 moderate

1 low

If position is neutral, there will be no measure of importance.

The coordinator will pass to you another participant's tabulation sheet. Record the participant number in the spaces provided, and record the responses and comments from that sheet onto your Participant Chart. You will be asked to record the tabulations from each participant's Tabulation Sheet.

After you have finished, you will observe how their estimates were different from yours, which you have already recorded on your own Tab Sheet Round 1. Observe your own Map Board and make changes, if you wish.

ISSUES LIST

ISSUE #1: For or against population growth and economic development.

ISSUE #2: For or against the construction of a trans-mountain highway.

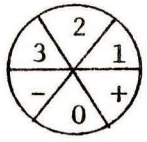
ISSUE #3: For or against allocation of more water to industrial use.

ISSUE #4: For or against development of utility services and accompanying roads in the Boulder-Grand Divide area.

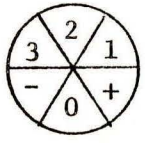
Sample Map Board

Participant # _____ Issue # _____

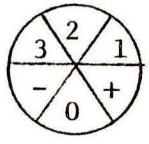
Map of Planning Area and Surrounding Counties



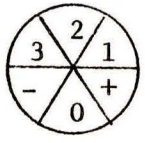
1. Sawmills/Planing



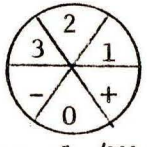
2. Logging



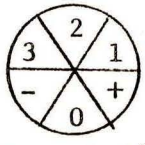
3. Cattle/Sheep Grazing



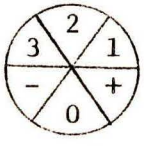
4. Other Livestock



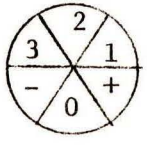
5. Minerals/Mining



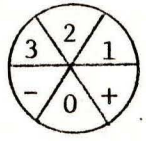
6. Watershed/Water Users



7. Eating/Drinking

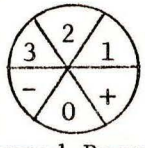


8. Personal Services

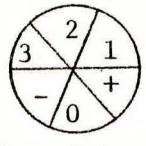


9. Wilderness Recreation

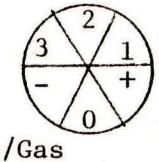
10. Wildlife Recreation



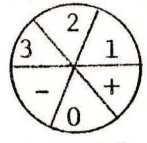
11. Dispersed Recreation



12. Developed Recreation



13. Auto/Gas



14. Transportation/ Warehousing

15. Food Processing

16. Other Retail

Participant's ISSUES Tabulation Sheet (1 of 3)

Participant Number _____ Round _____

Social Group Categories	ISSUE 1		ISSUE 2		ISSUE 3		ISSUE 4		ISSUE 5		ISSUE 6		ISSUE 7	
	P	I	P	I	P	I	P	I	P	I	P	I	P	I
Sawmills/ Planing														
COMMENTS:														
Logging														
COMMENTS:														
Cattle/Sheep Grazing														
COMMENTS:														
Other Livestock														
COMMENTS:														
Minerals/ Mining														
COMMENTS:														
Watershed/ Water Users														
COMMENTS:														
Eating/ Drinking														
COMMENTS:														
Personal Services														
COMMENTS:														

Participant's ISSUES Tabulation Sheet (2 of 3)

Participant Number _____ Round _____

Social Group Categories	ISSUE 1		ISSUE 2		ISSUE 3		ISSUE 4		ISSUE 5		ISSUE 6		ISSUE 7	
	P	I	P	I	P	I	P	I	P	I	P	I	P	I
Wilderness Recreation														
COMMENTS:														
Wildlife Recreation														
COMMENTS:														
Dispersed Recreation														
COMMENTS:														
Developed Recreation														
COMMENTS:														
Auto/Gas														
COMMENTS:														
Transportation/ Warehousing														
COMMENTS:														
Food Processing														
COMMENTS:														
Other Retail														
COMMENTS:														

Participant's ISSUES Tabulation Sheet (3 of 3)

Participant Number _____ **Round** _____

OUTSIDE ORGANIZATIONS - NATIONAL

Organization Name	ISSUE 1		ISSUE 2		ISSUE 3		ISSUE 4		ISSUE 5		ISSUE 6		ISSUE 7	
	P	I	P	I	P	I	P	I	P	I	P	I	P	I
COMMENTS:														
COMMENTS:														

OUTSIDE ORGANIZATIONS - STATE

COMMENTS:														
COMMENTS:														
COMMENTS:														

Participant's MANAGEMENT ALTERNATIVE Tabulation Sheet

Participant Number _____ **Round** _____

Social Group Categories	MANAGEMENT ALTERNATIVE BROWN		MANAGEMENT ALTERNATIVE GREEN		MANAGEMENT ALTERNATIVE ORANGE		MANAGEMENT ALTERNATIVE BLUE	
	P	I	P	I	P	I	P	I
Sawmills/ Planing								
COMMENTS:								
Logging								
COMMENTS:								
Cattle/Sheep Grazing								
COMMENTS:								
Other Livestock								
COMMENTS:								
Minerals/ Mining								
COMMENTS:								
Watershed/ Water Users								
COMMENTS:								
Eating/ Drinking								
COMMENTS:								
Personal Services								
COMMENTS:								

ALL PARTICIPANTS CHART (sample)

Participant Number _____

Social Group Categories	ISSUE 1		ISSUE 2		ISSUE 3		ISSUE 4		ISSUE 5		ISSUE 6		ISSUE 7	
	P	I	P	I	P	I	P	I	P	I	P	I	P	I
Sawmills/ Planing														
P#														
Comments														
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Comments														
Logging														
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Comments														
P#														
Comments														

N Group N . . .

ALL PARTICIPANTS CHART

Participant Number _____ Round _____

Social Group Categories	MANAGEMENT ALTERNATIVE BROWN		MANAGEMENT ALTERNATIVE GREEN		MANAGEMENT ALTERNATIVE ORANGE		MANAGEMENT ALTERNATIVE BLUE	
	P	I	P	I	P	I	P	I
Sawmills/ Planing								
P#								
Comments								
P#								
Comments								
P#								
Comments								
P#								
Comments								
P#								
Comments								
Logging								
P#								
Comments								
P#								
Comments								
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Comments								
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Comments								
P#								
Comments								

N Group N . . .

APPENDIX 2

Instrument Administered to Each Panel Judge
Before Initiation of the
Social Well-Being Exercise

Participant Number _____

1. Your Age

_____ Under 25 _____ 45-54

_____ 25-34 _____ 55-64

_____ 35-44 _____ 65+

2. Sex _____ Male Female _____

3. Years of School Completed

_____ Professional (M.A., M.S., M.E., M.D., Ph.D., LLB., etc.)

_____ Four Year College Graduate (A.B., B.S., B.M., etc.)

_____ 1-3 Years college or business or technical schools

_____ High School Graduate

_____ 10-11 Years of school

_____ 7-9 Years of school

_____ Under 7 years of school

4. Residence

a. How long have you lived in Colorado? _____ Years

b. In what county do you live? _____

c. How long have you lived in this county? _____ Years

d. Place of Residence

_____ Farm _____ Rural Non-Farm _____ Town (Up to 15,000 pop.)

_____ City (15,000-100,000) _____ Metropolis (Above 100,000)

e. City/Town of Residence _____
(If rural, nearest town over 5,000)

5. Total Family Annual Income

_____ less than 10,000 _____ 10,000-12,499 _____ 12,500-14,999

_____ 15,000-17,499 _____ 17,500-19,999 _____ 20,000-24,999

_____ 25,000-29,999 _____ 30,000+

6. Principal Occupation _____

7. If you are employed by the Federal Government, what is your GS level?

GS Level _____ Not Applicable _____

8. Below is a list of activities. On the left and right side of the page please circle the number that tells how often you do these things now, and how you feel about doing them, using the key at the top of the columns. Please try not to skip any item.

How Often Do You Do These Things		How Well Do You Like These Things
0 Never 1 Rarely 2 Occasionally 3 Often		0 Dislike 1 Indifferent 2 Like 3 Like Very Much
0 1 2 3	Day Hiking/Walking	0 1 2 3
0 1 2 3	Book Reading	0 1 2 3
0 1 2 3	Fishing	0 1 2 3
0 1 2 3	Entertaining at Home	0 1 2 3
0 1 2 3	Backpacking/Remote Camping	0 1 2 3
0 1 2 3	Indoor Team Sports (Volleyball, etc.)	0 1 2 3
0 1 2 3	Skiing (Downhill, Cross-country)	0 1 2 3
0 1 2 3	Concerts	0 1 2 3
0 1 2 3	Hunting	0 1 2 3

0 1 2 3	Spectator Sports	0 1 2 3
0 1 2 3	Camping in Developed Campgrounds	0 1 2 3
0 1 2 3	Movies/Theater	0 1 2 3
0 1 2 3	Boating	0 1 2 3
0 1 2 3	Photography	0 1 2 3
0 1 2 3	Snowmobiling	0 1 2 3
0 1 2 3	Outdoor Individual Sports (Golf, Tennis, Horseback Riding, Skating, etc.)	0 1 2 3

9. We are interested in the meanings of certain things to various people. In responding to the items listed below, place your mark in the middle of the spaces not on the boundaries. Don't put more than one mark on a scale, and don't worry or puzzle over items. It is your first impression about the items that we want.

SNOWMOBILES

Desirable _____ Undesirable

Important _____ Unimportant

Beautiful _____ Ugly

WILDERNESS

Desirable _____ Undesirable

Important _____ Unimportant

Beautiful _____ Ugly

MINING

Desirable _____ Undesirable

Important _____ Unimportant

Beautiful _____ Ugly

DEVELOPED CAMPGROUNDS

Desirable _____ Undesirable

Important _____ Unimportant

Beautiful _____ Ugly

PUBLIC PLANNING

Desirable _____ Undesirable

Important _____ Unimportant

Beautiful _____ Ugly

10. Rate how you feel about the following items by marking the appropriate spot within a set of parentheses.

a. Persons like myself have little chance of protecting our personal interests when they conflict with other pressure groups.

Highly Agree ( ) ( ) ( ) ( ) ( ) Highly Disagree

b. More and more I feel helpless in the face of what is happening today.

Highly Agree ( ) ( ) ( ) ( ) ( ) Highly Disagree

c. The average citizen can have an influence on government decisions.

Highly Agree ( ) ( ) ( ) ( ) ( ) Highly Disagree

APPENDIX 3

Characteristics of Judges--
Frequency Distributions
on Activity Items
For Panel Members

Characteristics of Judges--
Frequency Distributions on
Activity Items
N=9--First Panel
N=7--Second Panel

Day Hiking/Walking

Frequency	Panel 1	Panel 2	Degree of Liking	Panel 1	Panel 2
0=Never	0	0	0=Dislike	0	0
1=Rarely	1	2	1=Indifferent	1	0
2=Occasionally	5	2	2=Like	4	2
3=Often	3	3	3=Like Very Much	4	4
					NR=1

Book Reading

Frequency	Panel 1	Panel 2	Degree of Liking	Panel 1	Panel 2
0=Never	0	0	0=Dislike	0	0
1=Rarely	1	0	1=Indifferent	0	0
2=Occasionally	3	3	2=Like	3	2
3=Often	5	4	3=Like Very Much	6	4
					NR=1

Fishing

Frequency	Panel 1	Panel 2	Degree of Liking	Panel 1	Panel 2
0=Never	3	2	0=Dislike	0	0
1=Rarely	3	1	1=Indifferent	4	2
2=Occasionally	2	3	2=Like	1	3
3=Often	1	1	3=Like Very Much	4	1
					NR=1

*First panel of judges consists of those who participated in all three dimensions of social well being. N=9 because two judges could not continue with the exercise for the social equality and conflict domains and were replaced by substitutes.

**Second panel of judges consists of those who participated only in the social access exercise.

Entertaining at Home

Frequency	Panel 1	Panel 2	Degree of Liking	Panel 1	Panel 2
0=Never	0	0	0=Dislike	1	0
1=Rarely	1	2	1=Indifferent	1	2
2=Occasionally	8	4	2=Like	7	1
3=Often	0	1	3=Like Very Much	0	3
					NR=1

Backpacking/Remote Camping

Frequency	Panel 1	Panel 2	Degree of Liking	Panel 1	Panel 2
0=Never	4	2	0=Dislike	0	0
1=Rarely	3	1	1=Indifferent	5	2
2=Occasionally	1	2	2=Like	2	0
3=Often	1	2	3=Like Very Much	2	4
					NR=1

Indoor Team Sports (Volleyball, etc.)

Frequency	Panel 1	Panel 2	Degree of Liking	Panel 1	Panel 2
0=Never	0	3	0=Dislike	0	0
1=Rarely	7	3	1=Indifferent	0	3
2=Occasionally	2	0	2=Like	9	2
3=Often	0	1	3=Like Very Much	0	1
					NR=1

Skiing (Downhill/Cross-Country)

Frequency	Panel 1	Panel 2	Degree of Liking	Panel 1	Panel 2
0=Never	2	1	0=Dislike	1	1
1=Rarely	0	1	1=Indifferent	0	0
2=Occasionally	4	2	2=Like	3	1
3=Often	3	3	3=Like Very Much	5	4
					NR=1

Concerts

Frequency	Panel 1	Panel 2	Degree of Liking	Panel 1	Panel 2
0=Never	1	0	0=Dislike	1	0
1=Rarely	6	4	1=Indifferent	2	1
2=Occasionally	2	2	2=Like	4	4
3=Often	0	1	3=Like Very Much	2	1
					NR=1

Hunting

Frequency	Panel 1	Panel 2	Degree of Liking	Panel 1	Panel 2
0=Never	2	6	0=Dislike	2	1
1=Rarely	2	1	1=Indifferent	1	4
2=Occasionally	3	0	2=Like	2	1
3=Often	2	0	3=Like Very Much	4	0
					NR=1

Spectator of Sports

Frequency	Panel 1	Panel 2	Degree of Liking	Panel 1	Panel 2
0=Never	0	0	0=Dislike	0	1
1=Rarely	5	4	1=Indifferent	3	2
2=Occasionally	2	3	2=Like	3	2
3=Often	2	0	3=Like Very Much	3	1
					NR=1

Camping in Developed Campgrounds

Frequency	Panel 1	Panel 2	Degree of Liking	Panel 1	Panel 2
0=Never	2	1	0=Dislike	3	1
1=Rarely	5	2	1=Indifferent	3	2
2=Occasionally	1	3	2=Like	1	2
3=Often	1	1	3=Like Very Much	1	1
					NR=1

Movies/Theater

Frequency	Panel 1	Panel 2	Degree of Liking	Panel 1	Panel 2
0-Never	0	0	0-Dislike	0	0
1-Rarely	6	3	1-Indifferent	2	1
2-Occasionally	3	3	2-Like	7	4
3-Often	0	1	3-Like Very Much	0	1
					NR=1

Boating

Frequency	Panel 1	Panel 2	Degree of Liking	Panel 1	Panel 2
0-Never	1	2	0-Dislike	1	0
1-Rarely	6	3	1-Indifferent	2	2
2-Occasionally	2	1	2-Like	3	1
3-Often	0	1	3-Like Very Much	2	3
					NR=1

Photography

Frequency	Panel 1	Panel 2	Degree of Liking	Panel 1	Panel 2
0-Never	0	0	0-Dislike	0	0
1-Rarely	3	3	1-Indifferent	3	1
2-Occasionally	2	3	2-Like	2	5
3-Often	4	1	3-Like Very Much	4	0
					NR=1

Snowmobiling

Frequency	Panel 1	Panel 2	Degree of Liking	Panel 1	Panel 2
0-Never	7	3	0-Dislike	6	2
1-Rarely	1	4	1-Indifferent	2	3
2-Occasionally	1	0	2-Like	0	1
3-Often	0	0	3-Like Very Much	1	0
					NR=1

Outdoor Individual Sports (Golf, Tennis, Horseback Riding, Skating)

Frequency	Panel 1	Panel 2	Degree of Liking	Panel 1	Panel 2
0-Never	0	0	0-Dislike	0	0
1-Rarely	2	4	1-Indifferent	0	0
2-Occasionally	3	2	2-Like	4	3
3-Often	4	1	3-Like Very Much	5	1
					NR=1

Semantic Differential

Snowmobiles

Desirable	P-1*	P-2	Important	P-1	P-2	Beautiful	P-1	P-2
+2	1	2	+2	1	1	+2	1	0
+1	0	2	+1	2	2	+1	0	1
-1	4	2	-1	5	2	-1	4	2
-2	4	1	-2	1	2	-2	4	4
Undesirable			Unimportant			Ugly		

Wilderness

Desirable	P-1	P-2	Important	P-1	P-2	Beautiful	P-1	P-2
+2	4	3	+2	4	3	+2	6	4
+1	3	2	+1	3	2	+1	3	1
-1	2	2	-1	2	2	-1	0	2
-2	0	0	-2	0	0	-2	0	0
Undesirable			Unimportant			Ugly		

Mining

Desirable	P-1	P-2	Important	P-1	P-2	Beautiful	P-1	P-2
+2	4	3	+2	8	6	+2	0	0
+1	2	1	+1	1	0	+1	1	0
-1	2	1	-1	0	1	-1	5	2
-2	1	2	-2	0	0	-2	3	5
Undesirable			Unimportant			Ugly		

*P=Panel

Developed Campgrounds

Desirable	P-1	P-2	Important	P-1	P-2	Beautiful	P-1	P-2
+2	4	4	+2	5	5	+2	0	0
+1	4	3	+1	2	2	+1	2	1
-1	0	0	-1	1	0	-1	5	4
-2	1	0	-2	0	0	-2	2	2
Undesirable			Unimportant			Ugly		

Public Planning

Desirable	P-1	P-2	Important	P-1	P-2	Beautiful	P-1	P-2
+2	6	5	+2	6	7	+2	1	0
+1	2	2	+1	2	0	+1	5	3
-1	0	0	-1	1	0	-1	2	4
-2	1	0	-2	0	0	-2	1	0
Undesirable			Unimportant			Ugly		

APPENDIX 4

Instructions provided to the East Grand Planning Unit citizens group for evaluation of proposed management alternatives.

These instructions reflect what we feel are improved procedures for maximizing the response from the groups within short timeframes. The procedures are simpler and have the benefit of better credibility with the participants.

PATTERNS OF SOCIAL CONFLICT

Instructions to Panel Members

INTRODUCTION

Today's task is to estimate possible social conflict patterns associated with proposed management strategies of the Forest Service in the East Grand area.

Your first assignment (Part I, below) is to identify existing patterns of conflict over specific issues in the planning region. Your second assignment (Part II, below) is to estimate future patterns of conflict that are likely to exist after different Forest Service management plans have been implemented.

Together, these two assignments will produce an estimate of the potential impact that different land management alternatives are likely to have on current conflicts between various groups and organizations concerned with the East Grand planning unit.

PROCEDURES

In both Part I and II of today's exercise you will go through a series of procedures or steps for establishing patterns of conflict. This procedure consists of two or three "rounds" during which members of your panel will make individual estimates on Response Sheets of the "pro" or "con" positions that types of groups or organizations take regarding specific issues (in Part I) or management alternatives (in Part II).

At the end of each round, Response Sheets of all members in your panel will be collected by a Coordinator who will then, without identifying individual panel members, read aloud the responses of the group to items on the Response Sheet. Record these responses on your Tabulation Sheet.

If in the course of a round you wish to comment on or provide specific information about a particular item on your Response Sheet, write your comment on one of your Comment Cards and give it to the Coordinator along with your Response Sheet at the end of the round. All comments will be read anonymously to the panel after the data from the Response Sheets has been recorded. At this point, your panel will have completed a round.

Rounds are cumulative. During the first round your panel will produce an exploratory "first cut" of conflict patterns over current issues. But by the end of the second, or perhaps third round, you will see a convergence of views on group and organizational positions regarding given issues. This emerging consensus results both from the sharing of individual responses to items on the Response Sheets, and from information provided on Comment Cards at the end of each round.

When two or three rounds have been accomplished, the general agreement has been reached, the panel may wish to forego further rounds, and instead enter into open discussion of particular items over which panel members still disagree. After this discussion, the final judgement of the panel on outstanding items will be recorded, and Part I shall have been completed.

After a short recess, the panel will reconvene to undertake Part II of the exercise. The procedures followed in Part I shall also apply to Part II.

Part I

FIRST TASK: ESTIMATIONS OF EXISTING CONFLICT PATTERNS

In this task, you are asked to consider specific conflict issues (identified below, and listed on the left hand side of your Response Sheet and Tabulation Sheet), and to estimate the position and degree, pro or con, that particular types of groups and organizations (listed across the top of your Tab and Record Sheets) will take toward each issue. In making each estimate, use the following scale:

-3	-2	-1	0	+1	+2	+3
STRONGLY AGAINST	MODERATELY AGAINST	SLIGHTLY AGAINST	NEUTRAL	SLIGHTLY FOR	MODERATELY FOR	STRONGLY FOR

LIST OF ISSUES

1. For or against a downhill ski area and associated developments including roads, trails, and housing at Devil's Thumb.

2. For or against a downhill ski area and associated developments including roads, trails, and housing at Bowen Mt./Mineral Point.

3. For or against provision of additional mechanized (4-wheel drive/ snowmobile) summer and winter recreation opportunities at Never Summer, Willow Creek, and Ranch Creek-Meadow Creek areas.

4. For or against increasing commercial timber harvest and associated roads.

5. For or against Windy Gap Project and associated trans-mountain water diversions.

6. For or against inclusion of Never Summer roadless area in the national wilderness preservation system.

7. For or against inclusion of East Fork Troublesome roadless area in the national wilderness preservation system.

8. For or against inclusion of Devil's Thumb (Indian Peaks) roadless area in the national wilderness preservation system.

9. For or against Forest Service development of Campground and Picnic facilities.

Participants are welcome to suggest additional issues for discussion and evaluation.

Part II
SECOND TASK: ESTIMATIONS OF CONFLICT PATTERNS ASSOCIATED WITH PROPOSED MANAGEMENT ALTERNATIVES

In this task, you are asked to consider specific land management alternatives (listed below and on the left hand side of your Response and Tabulation Sheets), and to estimate the position and degree, pro or con, that particular types of groups and organizations (listed across the top of your Tab and Record Sheets) will take toward each management alternative. In making each estimate, use the following scale:

-3	-2	-1	0	+1	+2	+3
STRONGLY AGAINST	MODERATELY AGAINST	SLIGHTLY AGAINST	NEUTRAL	SLIGHTLY FOR	MODERATELY FOR	STRONGLY FOR

LIST OF MANAGEMENT ALTERNATIVES

ALTERNATIVE GREEN

Primary Land Uses - Water, fish and wildlife.
Secondary Land Uses - Dispersed recreation, timber harvest, developed recreation and grazing.

ALTERNATIVE ORANGE

Primary Land Uses - Dispersed recreation, primitive recreation, fish and wildlife habitat.

Secondary Land Uses - Water yield, developed recreation, timber harvesting and grazing.

ALTERNATIVE WHITE

Primary Land Uses - Concentrated winter sports recreation, developed recreation, silviculture and grazing.

Secondary Land Uses - Fish and wildlife, dispersed recreation and primitive recreation.

ALTERNATIVE BLUE

Primary Land Uses - Timber harvesting, grazing, water yields, and fish and wildlife.

Secondary Land Uses - All recreation activities.

PARTICIPANT RESPONSE SHEET: MANAGEMENT ALTERNATIVES

PARTICIPANT # _____

ROUND # _____

MANAGEMENT ALTERNATIVES:	BASIC INDUSTRIES							SERVICE INDUSTRIES		RECREATION						
	FARMING	RANCHING	AGRICULTURAL WATER	MUNICIPAL WATER	LOGGING	MINING	CONSTRUCTION	MOTELS AND RESTAURANTS	RETAIL SALES AND SERVICES	DISPERSED: NON-MOTORIZED	DISPERSED: MOTORIZED	DEVELOPED CAMPING	DEVELOPED SKIING	WILDERNESS	WILDLIFE: NON-HUNTING	WILDLIFE: HUNTING
GREEN																
ORANGE																
WHITE																
BLUE																

TABULATION SHEET: ISSUES

ROUND # _____

CONFLICT ISSUES	ID #'s	BASIC INDUSTRIES							SERVICE INDUST.		RECREATION						
		FARMING	RANCHING	AGRICULTURAL WATER	MUNICIPAL WATER	LOGGING	MINING	CONSTRUCTION	HOTELS AND RESTAURANTS	RETAIL SALES AND SERVICES	DISPERSED: NON-MOTORIZED	DISPERSED: MOTORIZED	DEVELOPED CAMPING	DEVELOPED SKIING	WILDERNESS	WILDLIFE: NON-HUNTING	WILDLIFE: HUNTING
ISSUE #1																	
ISSUE #2																	
ISSUE #3																	
ISSUE #4																	
ISSUE #5																	
ISSUE #6																	
ISSUE #7																	
ISSUE #8																	
ISSUE #9																	